Work Order ID 94088

November-30-12 8:37:48 AM

94088

Item ID: D3136-043 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Window Assembly

Start Date: 11/30/12 **Start Qty:** 2.00 *2* **Cust Item ID:**

Required Date: 12/07/12 **Req'd Qty:** 2.00 *2* **Customer:**

Reference:

Run Start *NR1*

Approvals: **Process Plan:** MLJ **Date:** 12-12-03 **Tooling:** _____ **Date:** _____

Stop *NR2*

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D3136	Rev E								
100		0.00							
100	FLOW WATER JET					2		B12-12-16	
Waterjet	**Memo**	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg Dwg Rev: E Prog Rev: E								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110						2		MB12-12-16	
QC	**Memo**	0.00							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
120						2		JB 12/12/19	
QC	**Memo**	0.00							
Quality Control									

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric to O/S
☐ Cracks
☐ Crushed/Crimped
☐ Cuffs
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Ripples in Bend
☐ Torque Waves in Extrusion
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damaged
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drill Holes
☐ Drawing
☐ Finish
☐ Folio
☐ Grain
☐ Hardware
☐ Inspection Incomplete
☐ Instructions Incomplete/Unclear
☐ Maintenance
☐ Mislabeled
☐ Misread
☐ Offset
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Ovalized
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

_____
_____
_____

Item ID: D3136-043 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Window Assembly

Start Date: 11/30/12 **Start Qty:** 2.00 *2*
Required Date: 12/07/12 **Req'd Qty:** 2.00 *2*
Reference:

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	THERMOFORMING MACHINE					2			12/12/19
Thermoform	**Memo**	0.00							
Thermoforming Machine	1-Deburr if necessary 2-Thermoform as per Dwg D3136 and Folio FTA002 Dwg Rev. F Folio Rev. C 3- Engrave Part # and Batch # , and affix labels (D3136-3)								
140		0.00							
140	HAND FINISHING THERMOFORMING					2			12/12/19
Thermoform	**Memo**	0.00							
Thermoforming Machine	Water sand and buff to remove scractches as required								

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

Item ID: D3136-043 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Window Assembly

Start Date: 11/30/12 **Start Qty:** 2.00 *2* **Cust Item ID:**
Required Date: 12/07/12 **Req'd Qty:** 2.00 *2* **Customer:**
Reference:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC2- Inspect parts off machine FAI/FAIB	0.00				2		3	12/12/19
150 QC Quality Control	**Memo**	0.00							
170	QC5- Inspect part completeness to step on W/O	0.00				2			
170 QC Quality Control	**Memo** Inspect edge and window deformation, wrap in plastic	0.00							
180	Identify as per dwg & Stock Location ST ~~269~~ 216	0.00				2			12/12/20
180 Packaging Packaging	**Memo**	0.00							

SMB 12 12 19 / DAS 16 12/17/19

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

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- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

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_____

Item ID: D3136-043 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Window Assembly

Start Date: 11/30/12 **Start Qty:** 2.00 *2*
Required Date: 12/07/12 **Req'd Qty:** 2.00 *2*
Reference:

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC21- Final Inspection - Work Order Release	0.00							
190							13/1/10		
QC	**Memo**	0.00							
Quality Control									

MF
12-12-21

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
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- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
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- ☐ Part Lost/Missing
- ☐ Part Moved
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- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

Picklist Print

November-30-12 8:37:48 AM

Work Order ID: 94088

Parent Item: D3136-043 **Start Date:** 11/30/12 **Required Date:** 12/07/12

Parent Item Name: Window Assembly **Start Qty:** 2.00 **Required Qty:** 2.00

Comments: IPP Rev:A04.02.04New issueKJ/DS
IPP Rev.B 07.05.29 Thermoform in-house DL
IPP rev C 07.09.28 Rev E dwg EC verified by:DD IPP Rev:D 10.06.24 added note in qc5
seq 170 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3108-9 Decal		Manufactured	No			100	Each	538.0000	2	4	4	12/12/19	
				Location		**Loc Qty**		**Loc Code**					
				ST026		538							
				34554		38							
				46546		500							
MACRLICS.125 1/8" Polycast II Sheet		Purchased	No			170	sf	180.1490	3.9	7.8	8	12-12-16	
				Location		**Loc Qty**		**Loc Code**					
				MAT019		180.149							
				110633		3							
				117324		0.2467							
				117431		10.7967							
				119591		15.16							
				121850		44.5456							
				123704		106.4							

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
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- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

DART AEROSPACE LTD	Work Order:	94088
Description: Window Assembly	Part Number:	D3136-043
Inspection Dwg: D3136 Rev: E		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [ ] Prototype

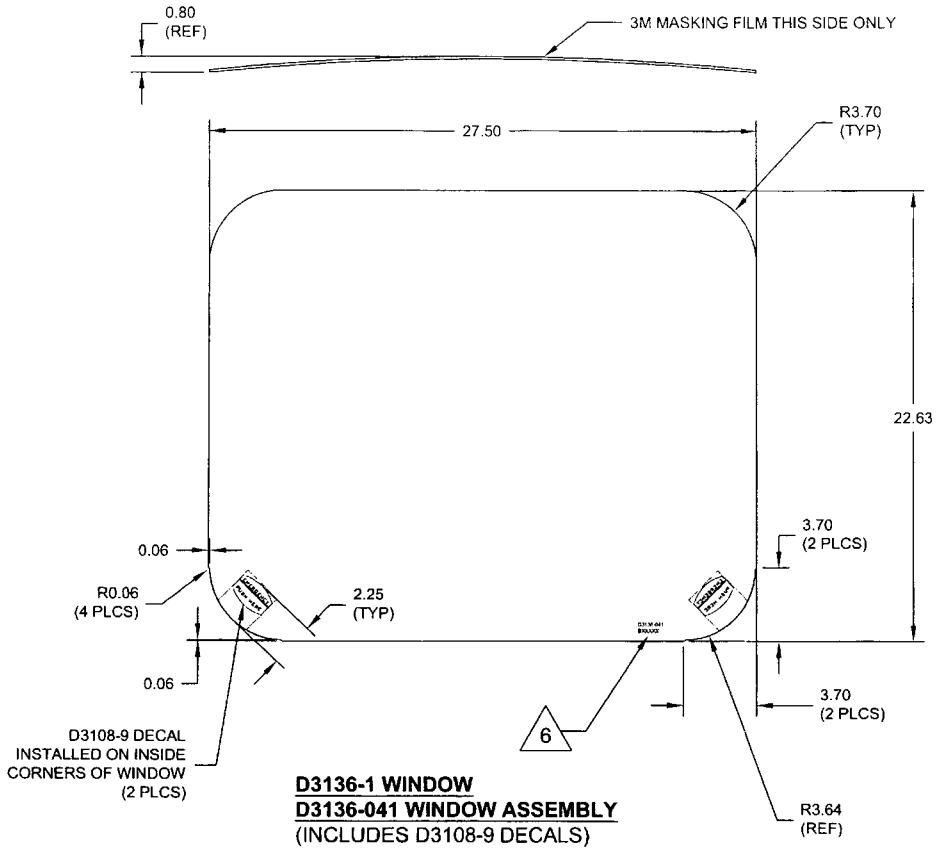
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
21.00	+/-0.030	21.00	✓		4 BC2	
25.75	+/-0.030	25.75	✓		4	
26.25	+/-0.030	26.25	✓		4	

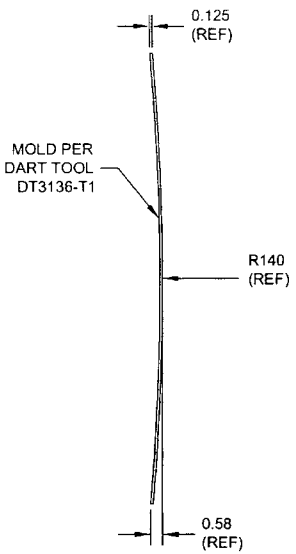
Measured by:	RB
Date:	12-12-16

Audited by:	RB DAS
Date:	12/12/18

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	07.10.19	New Issue	KJ/EC/DD	





D3136-1 WINDOW
D3136-041 WINDOW ASSEMBLY
(INCLUDES D3108-9 DECALS)

STAMP
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO CHANGE
WITHOUT NOTICE
WORK ORDER
NO. 94088 MCJ
12-12-03

RELEASED
07.09.22

NOTES:
1) MATERIAL: POLYCAST II CLEAR ACRYLIC SHEET FER MIL-P-5425 OR PLEXIGLAS G CLEAR CAST ACRYLIC SHEET PER LP-391 TYPE 1 GRADE C, 0.125 THICK
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) REMOVE SHARP EDGES
6) IDENTIFICATION: ENGRAVE P/N "D3136-041" AND B/N ON LOWER EDGE USE 0.125" HIGH LETTERS TO MAXIMUM DEPTH OF 0.005"
7) WEIGHT: 2.98 +/- 0.66 LBS
8) FORMING PROCESS: a) HEAT LARGER PIECE TO 250° F
b) DRAPE OVER D3136-T1 MOLD & CLAMP
c) LEAVE FOR 2 HOURS COVERED WITH INSULATED BLANKETS

REV.	DESCRIPTION	BY	DATE
E	REMOVE TRIM NOTE	DC	07.09.10
D	UPDATED MATERIAL NOTES	RF	05.12.01
C	ADDED FORMING & ENGRAVING SPEC	KJ	04.05.05
B	ADDED D3136-3 AND D3136-043	RF	04.01.21
A	NEW-ISSUE	DS	02.04.18

DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA	
DRAWN	DC		
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D3136	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		WINDOW ASSEMBLY	1:6
DATE	07.09.10		

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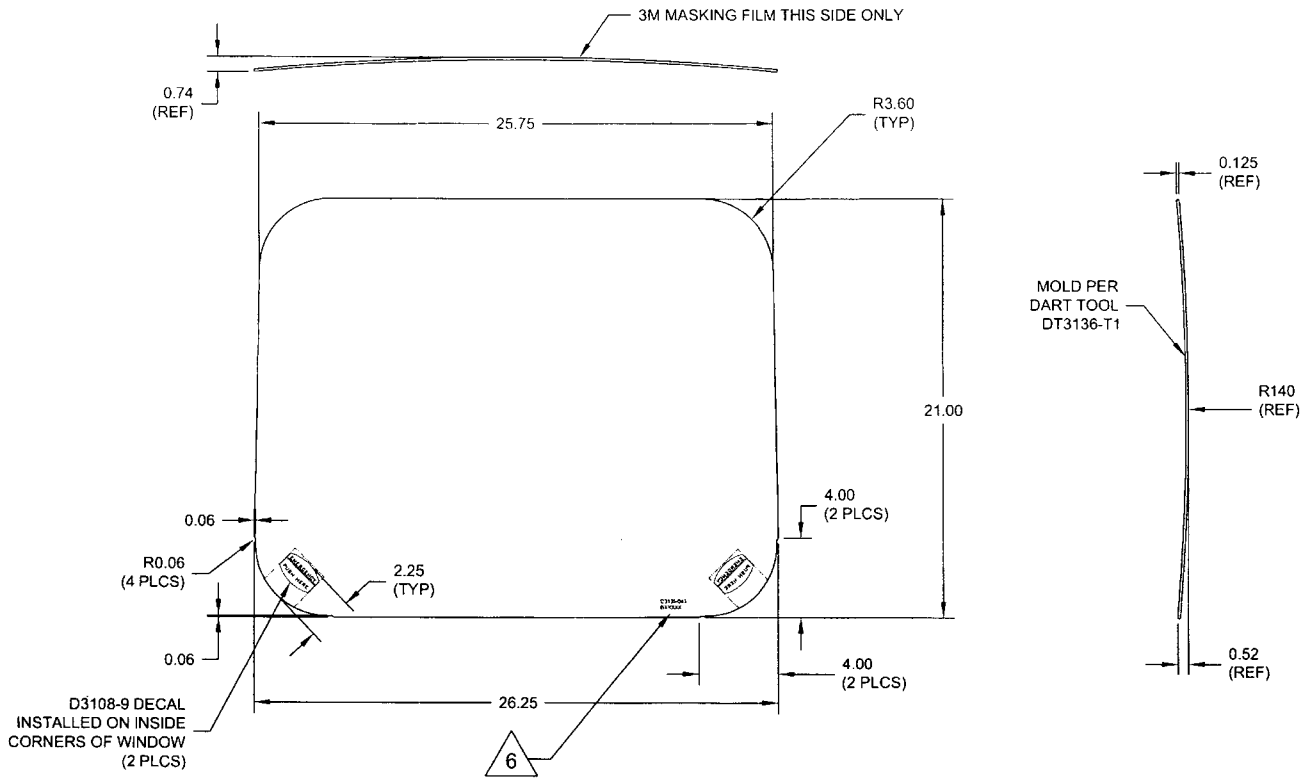
94028



D3136-3 WINDOW
D3136-043 WINDOW ASSEMBLY
(INCLUDES D3108-9 DECALS)

RELEASED
07.09.22

NOTES:
1) MATERIAL: POLYCAST II CLEAR ACRYLIC SHEET FER MIL-P-5425 OR PLEXIGLAS G
CLEAR CAST ACRYLIC SHEET PER LP-391 TYPE 1 GRADE C, 0.125 THICK
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) REMOVE SHARP EDGES
6) IDENTIFICATION: ENGRAVE P/N "D3136-043" AND B/N ON LOWER EDGE
USE 0.125" HIGH LETTERS TO MAXIMUM DEPTH OF 0.005"
7) WEIGHT: 2.61 +/- 0.58 LBS
8) FORMING PROCESS: a) HEAT LARGER PIECE TO 250° F
b) DRAPE OVER D3136-T1 MOLD & CLAMP
c) LEAVE FOR 2 HOURS COVERED WITH INSULATED BLANKETS

DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN		DRAWING NO. D3136 — REV. E — SHEET 2 OF 2
CHECKED		TITLE: WINDOW ASSEMBLY — SCALE: 1:6
MFG. APPR.		
APPROVED		
DE APPR.		
DATE 07.09.10		

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